

## CLAIMS

What is claimed is:

1. A gastric retention vehicle composition adapted for use in a pharmaceutical product for oral administration comprising a hydrogel, a superdisintegrant and tannic acid wherein the volume of the composition increases about three fold within about 15 minutes of contacting gastric fluid.
2. A gastric retention vehicle composition of claim 1 whose volume increases about five fold within about fifteen minutes of contacting gastric fluid.
3. A gastric retention vehicle composition of claim 2 whose volume increases about eight fold within about fifteen minutes of contacting gastric fluid.
4. A gastric retention vehicle composition of claim 1 whose volume increases about three fold within about five minutes of contacting gastric fluid.
5. A compacted gastric retention vehicle composition of claim 1.
6. A gastric retention vehicle composition of claim 1 wherein the hydrogel comprises hydroxypropyl methylcellulose.
7. A gastric retention vehicle composition of claim 6 wherein the hydrogel further comprises hydroxypropyl cellulose.
8. A gastric retention vehicle composition of claim 7 wherein the hydrogel comprises hydroxypropyl methylcellulose and hydroxypropyl cellulose in a weight ratio of from about 1:3 to about 5:3.
9. A gastric retention vehicle composition of claim 6 wherein the hydrogel further comprises a cross-linked polyacrylate.
10. A gastric retention vehicle composition of claim 9 wherein the cross-linked polyacrylate is a polyacrylic acid polymer crosslinked with allyl sucrose.
11. A gastric retention vehicle composition of claim 1 wherein the superdisintegrant is selected from the group consisting of cross-linked carboxymethylcellulose sodium, sodium starch glycolate and cross-linked polyvinylpyrrolidone.
12. A gastric retention vehicle composition of claim 11 wherein the superdisintegrant is cross-linked carboxymethylcellulose sodium.
13. A gastric retention vehicle composition of claim 11 wherein the superdisintegrant is sodium starch glycolate.
14. A gastric retention vehicle composition of claim 1 wherein tannic acid is present in

an amount of from about 2 weight percent to about 12 weight percent of the total weight of hydrogel, superdisintegrant and tannic acid, exclusive of other excipients that may be present.

15. A gastric retention vehicle composition of claim 1 comprising:
  - a) from about 20 to about 70 weight percent of hydrogel,
  - b) from about 10 to about 75 weight percent of superdisintegrant, and
  - c) from about 2 to about 12 weight percent tannic acidbased upon the combined weight of hydrogel, superdisintegrant and tannic acid, exclusive of other excipients that may be present.
16. A gastric retention vehicle composition of claim 15 comprising from about 30 to about 55 weight percent of superdisintegrant, from about 3 to about 7 weight percent tannic acid and an amount of hydrogel sufficient to bring the total weight percent to 100.
17. A gastric retention vehicle composition of claim 1 comprising from about 10 to about 30 weight percent hydroxypropyl methylcellulose, from about 40 to about 60 weight percent hydroxypropyl cellulose, about 7 to about 35 weight percent croscarmellose sodium and from about 4 to about 12 weight percent tannic acid based upon the combined weight of hydrogel, superdisintegrant and tannic acid, exclusive of other excipients that may be present.
18. A gastric retention vehicle composition of claim 1 comprising from about 10 to about 20 weight percent hydroxypropyl methylcellulose, from about 45 to about 50 weight percent hydroxypropyl cellulose, from about 25 to about 35 weight percent sodium starch glycolate and from about 4 to about 6 weight percent tannic acid based upon the combined weight of hydrogel, superdisintegrant and tannic acid, exclusive of other excipients that may be present.
19. A gastric retention vehicle composition of claim 1 wherein the gastric fluid is simulated gastric fluid.
20. The gastric retention vehicle composition of claim 19 wherein the simulated gastric fluid is prepared by mixing 7 volumes of hydrochloric acid in sufficient water to make 1000 volumes of solution and wherein the temperature of the simulated gastric fluid is 37°C.
21. A gastric retention vehicle composition of claim 19 wherein the simulated gastric

fluid is 0.1 M HCl and the temperature of the simulated gastric fluid is 37°C.

22. A pharmaceutical dosage form for oral administration to a patient comprising:
  - a) a therapeutic agent, and
  - b) a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid,wherein the gastric retention vehicle composition expands upon contact with gastric fluid to promote retention of the dosage form in the patient's stomach for a prolonged period of time, further wherein release of the therapeutic agent from the dosage form occurs during said prolonged period of time, and further wherein after said prolonged period of time the dosage form degrades into fragments too small to cause gastric retention.
23. A pharmaceutical dosage form of claim 22 wherein expansion of the gastric retention vehicle composition causes the dosage form to attain a maximum cross sectional area of about 20 x 20 mm or greater.
24. A pharmaceutical dosage form of claim 23 wherein the maximum cross sectional area is about 25 x 20 mm or greater.
25. A pharmaceutical dosage form of claim 23 wherein a cross sectional area of 20 x 20 mm is attained within about fifteen minutes of contacting gastric fluid.
26. A pharmaceutical dosage form of claim 25 wherein the cross sectional area of 20 x 20 mm is attained within about five minutes of contacting gastric fluid.
27. A pharmaceutical dosage form of claim 22 whose volume increases about three fold within about fifteen minutes of contacting gastric fluid.
28. A pharmaceutical dosage form of claim 27 whose volume increases about five fold within about fifteen minutes of contacting gastric fluid.
29. A pharmaceutical dosage form of claim 28 whose volume increases about eight fold within about fifteen minutes of contacting gastric fluid.
30. A pharmaceutical dosage form of claim 27 whose volume increases about three fold within about five minutes of contacting gastric fluid.
31. A pharmaceutical dosage form of claim 22 wherein the prolonged period of time is at least about 4 hours.
32. A pharmaceutical dosage form of claim 22 further comprising an effervescent substance.

33. A pharmaceutical dosage form of claim 32 wherein the effervescent substance is sodium bicarbonate.
34. A pharmaceutical dosage form of claim 22 wherein the therapeutic agent is selected from the group consisting of levodopa, optionally in combination with an amino decarboxylase enzyme inhibitor selected from the group consisting of carbidopa and benserazide, and methylphenidate.
35. A pharmaceutical dosage form of claim 22 in the form of a tablet.
36. A pharmaceutical dosage form of claim 35 in the form of a multilayer tablet.
37. A pharmaceutical dosage form of claim 22 in the form of a capsule.
38. A pharmaceutical dosage form of claim 22 in the form of encapsulated tablets.
39. A pharmaceutical dosage form of claim 22 wherein the gastric retention vehicle composition comprises:
- a) from about 20 to about 70 weight percent of hydrogel,
  - b) from about 10 to about 75 weight percent of superdisintegrant, and
  - c) from about 2 to about 12 weight percent tannic acid.
- based upon the combined weight of hydrogel, superdisintegrant and tannic acid, exclusive of other excipients that may be present.
40. A pharmaceutical dosage form for release of a therapeutic agent in the stomach of a patient comprising:
- a) a gastric retention vehicle comprising a hydrogel, a superdisintegrant and tannic acid, the gastric retention vehicle providing a homogenous solid matrix, and
  - b) a therapeutic agent dispersed in the matrix,
- wherein upon contact with gastric fluid the gastric retention vehicle composition expands to promote retention of the dosage form in the patient's stomach for a prolonged period of time and wherein release of the therapeutic agent from the dosage form occurs in the stomach within the prolonged period of time.
41. A pharmaceutical dosage form of claim 40 wherein the therapeutic agent is dispersed in the matrix as an ingredient in a plurality of particles dispersed in the matrix.
42. The dosage form of claim 41 wherein the particles are selected from the group consisting of compacted granules, beads, pills, pellets, microcapsules, microspheres, microgranules, nanocapsules and nanospheres.

43. The dosage form of claim 41 wherein the particles are coated.
44. A pharmaceutical dosage form of claim 43 wherein the particles are coated with a coating that delays release of the therapeutic agent.
45. A pharmaceutical dosage form of claim 44 wherein particles of a first portion of the plurality of particles are coated with a coating that delays release of the therapeutic agent for a first time period and wherein particles of a second portion of the plurality of particles are coated with a second coating that delays release of the therapeutic agent for a second time period that is longer than the first time period.
46. A pharmaceutical dosage form of claim 43 wherein the particles are coated with a coating that slows release of the therapeutic agent.
47. A pharmaceutical dosage form of claim 41 wherein the particles of a first portion of the plurality of particles are uncoated and the particles of a second portion of the plurality of particles are coated with a coating that delays release of the therapeutic agent from those particles.
48. A pharmaceutical dosage form of claim 40 wherein the therapeutic agent is released in a sustained release manner.
49. A pharmaceutical dosage form of claim 48 wherein the therapeutic agent is contained in a plurality of particles that have a matrix that slows release of the therapeutic agent.
50. A pharmaceutical dosage form of claim 48 wherein the therapeutic agent is contained in a plurality of particles that have a coating that slows release of the therapeutic agent.
51. The pharmaceutical dosage form of claim 40 further comprising a second therapeutic agent.
52. A pharmaceutical dosage form for pulsed release of one or more therapeutic agents in the stomach of a patient comprising:
  - a) a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid, the gastric retention vehicle composition providing a homogenous solid matrix,
  - b) a plurality of first particles dispersed in the matrix, wherein the first particles contain a first therapeutic agent, and
  - c) a plurality of second particles dispersed in the matrix, wherein the second

particles contain a second therapeutic agent, wherein the second particles are coated with a coating that is impermeable to the second therapeutic agent and dissolves in gastric fluid causing the coating to be breached by the gastric fluid after a delay time period,

wherein the first therapeutic agent and the second therapeutic agent may be the same or different,

further wherein, upon contact with gastric fluid the gastric retention vehicle expands to promote retention of the dosage form in the patient's stomach and wherein the first therapeutic agent is released from the plurality of first particles, and further, after passage of the delay time period, the coating of the second particles is breached and the second therapeutic agent is released from the plurality of second particles.

53. A pharmaceutical dosage form for delayed pulsed release of one or more therapeutic agents in the stomach of a patient comprising:
  - a) a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid, the gastric retention vehicle composition providing a homogenous solid matrix,
  - b) a plurality of first particles dispersed in the matrix, wherein the first particles contain a first therapeutic agent, wherein the first particles are coated with a first coating that is impermeable to the first therapeutic agent and dissolves in gastric fluid causing the first coating to be breached by the gastric fluid after a first delay time period, and
  - c) a plurality of second particles dispersed in the matrix, wherein the second particles contain a second therapeutic agent, wherein the second particles are coated with a second coating that is impermeable to the second therapeutic agent and dissolves in gastric fluid causing the second coating to be breached by the gastric fluid after a second delay time period that is longer than the first delay time period,

wherein the first therapeutic agent and the second therapeutic agent may be the same or different,

further wherein, the first coating and the second coating may be the same, but differ in thickness, or different,

further wherein, upon contact with gastric fluid the gastric retention vehicle composition expands to promote retention of the dosage form in the patient's stomach and, after passage of the first time period, the first coating is breached and the first therapeutic agent is released from the first particles, and further, after the passage of the second time period, the second coating is breached and the second therapeutic agent is released from the second particles.

54. A pharmaceutical dosage form for gastric release of a therapeutic agent in a patient comprising a compacted reservoir containing the therapeutic agent, the reservoir being embedded in a compacted shell comprising a hydrogel, a superdisintegrant and tannic acid, wherein the shell expands upon contact with gastric fluid to promote retention of the dosage form in the patient's stomach for a prolonged period of time, further wherein the therapeutic agent is released from the reservoir within said prolonged period of time and further wherein after said prolonged period of time the shell degrades into fragments too small to cause gastric retention.
55. A pharmaceutical dosage form of claim 54 wherein the reservoir provides sustained release of the therapeutic agent.
56. A pharmaceutical dosage form of claim 54 wherein the reservoir provides delayed sustained release of the therapeutic agent.
57. A pharmaceutical dosage form of claim 54 wherein the reservoir provides burst release of the therapeutic agent.
58. A pharmaceutical dosage form of claim 54 wherein the reservoir provides delayed burst burst release of the therapeutic agent.
59. A pharmaceutical dosage form of claim 54 wherein the reservoir provides immediate release of the therapeutic agent.
60. The pharmaceutical dosage form of claim 54 wherein the embedding of the reservoir is partial and leaves exposed a portion of the surface of the reservoir.
61. A pharmaceutical dosage form of claim 54 wherein the reservoir is coated.
62. A pharmaceutical dosage form of claim 61 wherein the reservoir is coated with a coating that delays release of the therapeutic agent.
63. A pharmaceutical dosage form of claim 61 wherein the reservoir is coated with a coating that slows release of the therapeutic agent.
64. A pharmaceutical dosage form of claim 54 wherein the reservoir has a matrix that

slows release the therapeutic agent.

65. An encapsulated pharmaceutical dosage form of claim 54.
66. A dosage form of claim 54 wherein the reservoir is a tablet.
67. A pharmaceutical dosage form comprising a capsule enclosing a compacted gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid and a reservoir comprising a therapeutic agent bonded to the compacted gastric retention vehicle composition either by compression or an adhesive, wherein upon ingestion by a patient the capsule dissolves in the patient's stomach allowing water to contact the gastric retention vehicle composition causing it to expand to promote retention of the reservoir in the patient's stomach for a prolonged period of time, further wherein the therapeutic agent is released from the reservoir within said prolonged period of time and further wherein after said prolonged period of time the compacted gastric retention composition degrades into fragments too small to cause gastric retention.
68. A pharmaceutical dosage form of claim 67 wherein the reservoir provides sustained release of the therapeutic agent.
69. A pharmaceutical dosage form of claim 67 wherein the reservoir provides delayed sustained release of the therapeutic agent.
70. A pharmaceutical dosage form of claim 67 wherein the reservoir provides burst release of the therapeutic agent.
71. A pharmaceutical dosage form of claim 67 wherein the reservoir provides delayed burst release of the therapeutic agent.
72. A pharmaceutical dosage form of claim 67 wherein the reservoir provides immediate release of the therapeutic agent.
73. The pharmaceutical dosage form of claim 67 wherein the adhesive is applied to a portion of the surface of the gastric retention vehicle composition.
74. The pharmaceutical dosage form of claim 67 wherein the adhesive is applied to a portion of the surface of the reservoir.
75. The pharmaceutical dosage form of claim 67 wherein the capsule encloses a second reservoir comprising a second therapeutic agent.
76. The pharmaceutical dosage form of claim 75 wherein the second therapeutic agent of the second reservoir is the same as the therapeutic agent of the reservoir.



77. The pharmaceutical dosage form of claim 67 wherein the reservoir is a tablet.
78. A pharmaceutical dosage form comprising a capsule enclosing a first compacted composition comprising a hydrogel, a superdisintegrant and tannic acid and enclosing a second compacted composition comprising a therapeutic agent, wherein at least one of either the first or second compacted compositions has applied to a portion of its surface an adhesive, wherein upon ingestion by a patient the capsule dissolves in the patient's stomach allowing water to contact the first compacted composition causing it to expand and allowing water to contact the adhesive, the wetted adhesive binding the first and second compacted compositions to each other, further wherein expansion of the first compacted composition promotes retention of the dosage form in the patient's stomach for a prolonged period of time, further wherein the therapeutic agent is released from the second compacted composition within said prolonged period of time and further wherein after said prolonged period of time the dosage form degrades into fragments too small to cause gastric retention.
79. A multilayered pharmaceutical dosage form for release of a therapeutic agent in the stomach of a patient comprising:
  - a) a first layer containing the therapeutic agent, and
  - b) a second layer bonded to the first layer by compression or an adhesive, the second layer containing a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid,wherein the second layer expands upon contact with gastric fluid to promote retention of the dosage form in the patient's stomach for a prolonged period of time, further wherein the therapeutic agent is released from the first layer during said prolonged period of time and further wherein after said prolonged period of time the second layer degrades into fragments too small to cause gastric retention.
80. The multilayered pharmaceutical dosage form of claim 79 wherein the therapeutic agent is released from the first layer in a delay release, burst release, delay burst release, pulsed release, delay pulsed release, sustained release or delayed sustained release manner.
81. The multilayered pharmaceutical dosage form of claim 79 wherein the first layer is coated with a coating that delays release of the therapeutic agent.

82. The multilayered pharmaceutical dosage form of claim 79 wherein the first layer is coated with a coating that slows release of the therapeutic agent.
83. A pharmaceutical dosage form for oral administration to a patient providing sustained gastric release of levodopa, the dosage form comprising levodopa, optionally in combination with carbidopa or benserazide, and a gastric retention vehicle composition comprising tannic acid that expands upon contact with gastric fluid to retain the dosage form in the patient's stomach for a period of at least about four hours.
84. The pharmaceutical dosage form of claim 83 wherein levodopa is released in simulated gastric fluid over a period of at least four hours.
85. The pharmaceutical dosage form of claim 83 wherein release of levodopa in simulated gastric fluid is delayed for at least four hours.
86. A pharmaceutical dosage form for oral administration to a patient providing gastric release of levodopa over a prolonged period of time comprising from about 10 to about 14 weight percent hydroxypropyl methylcellulose, from about 42 to about 47 weight percent hydroxypropyl cellulose, from about 7 to about 12 weight percent croscarmellose sodium, from about 6 to about 9 weight percent tannic acid, from about 18 to about 22 weight percent levodopa, from about 3 to about 6 weight percent carbidopa and, optionally, from about 0.3 to about 1 weight percent tablet lubricant.
87. A pharmaceutical dosage form of claim 86 that releases levodopa in the patient's stomach over 8 hours.
88. A pharmaceutical dosage form for oral administration to a patient providing gastric release of levodopa comprising a sustained release reservoir of levodopa, optionally in combination with an amino decarboxylase enzyme inhibitor selected from the group consisting of carbidopa and benserazide, embedded in a shell comprising from about 10 to about 20 weight percent hydroxypropyl methylcellulose, from about 50 to about 60 weight percent hydroxypropyl cellulose, from about 12 to about 25 weight percent croscarmellose sodium, from about 6 to about 12 weight percent tannic acid and, optionally, from about 0.3 to about 1 weight percent tablet lubricant.
89. A pharmaceutical dosage form of claim 88 that releases levodopa in the patient's

stomach over 8 hours.

90. A pharmaceutical dosage form for oral administration to a patient providing pulsed gastric release of methylphenidate comprising:
- a) a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid, the gastric retention vehicle composition providing a homogenous solid matrix,
  - b) a plurality of first particles dispersed in the matrix, wherein the first particles contain methylphenidate, and
  - c) a plurality of second particles dispersed in the matrix, wherein the second particles contain methylphenidate, wherein each the second particles are coated with a coating that is impermeable to methylphenidate and dissolves in gastric fluid causing the coating to be breached by the gastric fluid,
- wherein, upon contact with gastric fluid the gastric retention vehicle composition expands to promote retention of the dosage form in the patient's stomach and wherein methylphenidate is released from the first particles, and, after about 3 to 5 hours, the coating of the second particles is breached and methylphenidate is released from the second particles.
91. A pharmaceutical dosage form of claim 90 further comprising a plurality of third particles containing methylphenidate dispersed in the matrix, the third particles having a coating that is impermeable to the methylphenidate that dissolves in gastric fluid causing the coating to be breached by the gastric fluid, wherein, after about 3 to 5 hours after release of methylphenidate from the second particles, methylphenidate is released from the third particles.
92. A pharmaceutical dosage form of claim 90 wherein the first particles are coated with a coating that delays release of the methylphenidate from those particles.
93. A pharmaceutical dosage form for oral administration to a patient providing pulsed gastric release of methylphenidate comprising:
- a) a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid,
  - b) a first reservoir containing methylphenidate, and
  - c) a second reservoir containing methylphenidate, wherein the second reservoir is coated with a coating that is impermeable to methylphenidate and dissolves in

gastric fluid causing the coating to be breached by the gastric fluid, wherein, upon contact with gastric fluid the gastric retention vehicle composition expands to promote retention of the dosage form in the patient's stomach and wherein methylphenidate is released from the first reservoir, and, after about 3 to 5 hours, the coating of the second reservoir is breached and methylphenidate is released from the second reservoir.

94. A pharmaceutical dosage form of claim 93 further comprising a third reservoir coated with a coating that is impermeable to methylphenidate and dissolves in gastric fluid causing the coating to be breached by the gastric fluid and methylphenidate to be released from the third reservoir about 3 to 5 hours after release of methylphenidate from the second reservoir.
95. A pharmaceutical dosage form of claim 93 wherein the first reservoir is coated with a coating that delays release of the methylphenidate from that reservoir.
96. A pharmaceutical dosage form of claim 93 wherein the gastric retention vehicle composition and the reservoirs are encapsulated.
97. A method of averting or treating disease by administering to a patient susceptible to or afflicted with the disease a therapeutically effective amount of a clinically appropriate therapeutic agent contained in a pharmaceutical dosage form of claim 22.
98. A method of treating a central nervous system dopamine deficiency disease in a patient in need of such treatment comprising administering to the patient the pharmaceutical dosage form of claim 22 wherein the therapeutic agent is levodopa, optionally in combination with an amino decarboxylase enzyme inhibitor selected from the group consisting of carbidopa and benserazide.
99. A method of treating a central nervous system dopamine deficiency disease in a patient in need of such treatment comprising administering to the patient a pharmaceutical dosage form containing levodopa, optionally in combination with an amino decarboxylase enzyme inhibitor selected from the group consisting of carbidopa and benserazide, that releases levodopa in the stomach of a patient over a period of 8 hours or more.
100. A method of treating a central nervous system dopamine deficiency disease in a patient in need of such treatment comprising administering to the patient a

pharmaceutical dosage form containing levodopa, optionally in combination with an amino decarboxylase enzyme inhibitor selected from the group consisting of carbidopa and benserazide, that delays release of a therapeutically effective amount of levodopa for 4 hours or more after administration and thereafter releases levodopa in the patient's stomach.

101. A method of treating a central nervous system dopamine deficiency disease of claim 100 wherein the dosage form is administered in the evening or at night.
102. A method of treating hyperactivity or attention deficit disorder in a patient in need of such treatment by administering to the patient a single dosage form containing two or more doses of methylphenidate that releases a first dose of methylphenidate in the patient's stomach and releases a second dose of methylphenidate in the patient's stomach about 3 to about 5 hours after release of the first dose.
103. The method of treating hyperactivity or attention deficit disorder of claim 102 wherein the dosage form contains a third dose of methylphenidate that is released from about 3 to about 5 hours after release of the second dose.
104. The method of treating hyperactivity or attention deficit disorder of claim 102 wherein there is a delay of about 3 to 5 hours after administration of the dosage form before the first dose of methylphenidate is released.
105. The method of treating hyperactivity or attention deficit disorder of claim 102 wherein the dosage form comprises a homogeneous matrix comprising a hydrogel, a superdisintegrant and tannic acid, and a plurality of particles containing methylphenidate dispersed throughout the matrix, wherein particles of a portion of the plurality of particles have a coating that delays the release of methylphenidate from the coated particles, wherein release from the coated particles provides the second dose.
106. The method of treating hyperactivity or attention deficit disorder of claim 102 wherein the dosage form comprises a gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid, a first reservoir containing methylphenidate that releases methylphenidate in a first dose and a second reservoir containing methylphenidate that releases methylphenidate in a second dose, wherein the reservoir is coated with a coating that delays the release of the second dose of methylphenidate for about 3 to about 5 hours after the first dose.

107. A method of treating a hyperactivity or attention deficit disorder of claim 102 wherein the dosage form comprises a capsule enclosing a compacted gastric retention vehicle composition comprising a hydrogel, a superdisintegrant and tannic acid having a coating of methylphenidate, and a delayed release reservoir of methylphenidate wherein the capsule dissolves in the patient's stomach causing gastric fluid to contact the gastric retention vehicle composition.
108. A process for making an orally administered pharmaceutical product comprising the steps of:
- a) combining a hydrogel, a superdisintegrant, tannic acid and a therapeutic agent, and
  - b) compressing the combination,
- wherein the volume of the pharmaceutical product rapidly expands upon contacting gastric fluid.
109. A process of claim 108 wherein the volume of the pharmaceutical product increases about three fold within about fifteen minutes of contacting gastric fluid.
110. A process of claim 109 wherein the volume of the pharmaceutical product increases about five fold within about fifteen minutes of contacting gastric fluid.
111. A process of claim 108 wherein the volume of the pharmaceutical product increases about eight fold within about fifteen minutes of contacting gastric fluid.
112. A process of claim 108 where the volume of the pharmaceutical product increases about three fold within five minutes of contacting gastric fluid.